AXS-200/620

part of the SharpTESTER Access Line

NETWORK TESTING – ACCESS

Features/Benefits

- Simple, affordable triple-play testing over ADSL1/2/2+ and Ethernet 10/100
- ADSL1/2/2+ service testing at the customer premises, a remote location or the central office
- IPTV service assurance using a comprehensive range of QoS metrics
- Unparalleled ease of use for VoIP QoS assurance
- IP layer testing: connectivity consistency assessment using ping, traceroute, HTTP and FTP Web speed testing
- Pass/fail-based auto-testing capability

Extreme Ease of Use

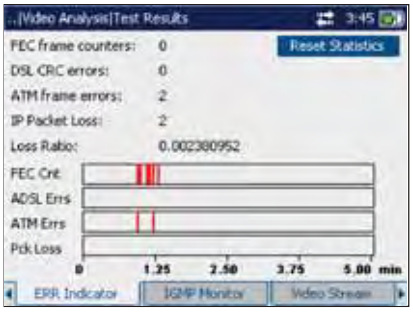
EXFO's AXS-200/620 ADSL2+ Triple-Play Test Set offers a quick and thorough method for deploying triple-play services–ADSL1/2/2+ and Ethernet-based data, VoIP and IPTV testing–facilitated by pass/fail-driven automated tests.

In addition to validating connectivity to the DSLAM, the AXS-200/620 performs upstream and downstream measurements such as actual data rates, attenuation and noise margin. What's more, it provides advanced IPTV measurements–packet jitter, packet loss, PCR jitter, MDI, PID viewer and IGMP zap time–both in Terminate (stand-alone) and Through mode operation. The AXS-200/620 also monitors residential VoIP call flow and statistics, facilitating VoIP QoS assurance.

Quick Access to Test Results

The AXS-200/620's IPTV test summary screen.

IP arrival jitter test results.



Per-layer error indication: a critical part of IPTV testing.

Test In, Test Out

Service providers are used to the "test in, test out" rule of troubleshooting. The AXS-200/620 takes this rule a step further by allowing technicians and engineers alike to test inside the customer premises over Ethernet or outside the customer premises over ADSL1/2/2+ to mitigate and remove performance issues. The AXS-200/620 can also conduct the same triple-play testing over ADSL1/2/2+ or Ethernet 10/100. This methodology ensures trouble spots are detected and dealt with accordingly and quickly.

An Essential Tool for DSL Service Providers and Contractors

The AXS-200/620 is the optimal tool for DSL service verification and triple-play testing. It helps telco and contractor personnel to quickly and easily identify the reason for DSL and triple-play deployment failure using automatic testing with customer-adjustable pass/fail criteria. In addition, network operators appreciate the AXS-200/620 as it eliminates the guesswork in hunting down DSL service faults or IPTV quality of experience issues that might otherwise tie up valuable staff and company resources–a real CAPEX and OPEX saver.

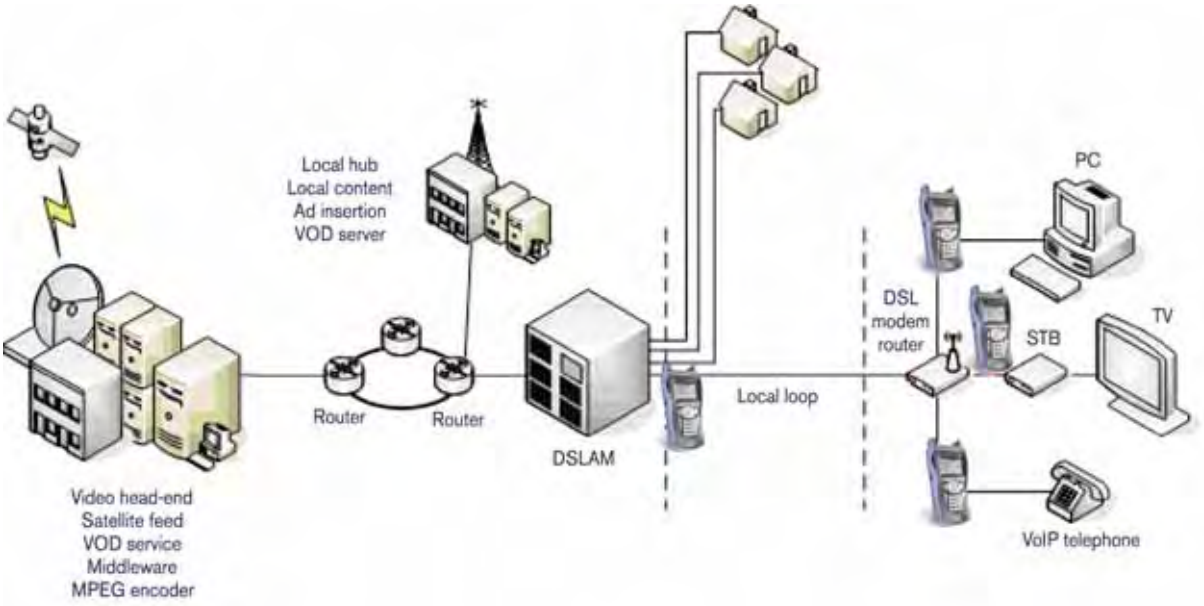
IPTV and Triple-Play Deployments

For many telcos, the roll out of Internet services over ADSL1/2/2+ has gone quite smoothly. However, IPTV is another story. EXFO's AXS-200/620 offers comprehensive IPTV and VoIP testing over ADSL1/2/2+ but also over 10/100Base-T Ethernet to ensure the customer experience is excellent. From outside or inside the customer premises, the AXS-200/620 has you covered.

Fingerpointing

The essence of the AXS-200/620 is to assist service providers in determining why the service is not working correctly. By analyzing the DSL physical layer, the technician can see whether the DSL data rates being seen at the customer premises are high enough to support all three services making up triple-play: data, voice and video. If the rates are too low or the noise margin is questionable, then there is likely something wrong with the local loop.

Moving up the protocol stack, the AXS-200/620 provides ease of use and result interpretation for data services using measurement techniques such as ping, traceroute, HTTP and FTP speed testing. VoIP and IPTV applications are analyzed to determine if the problems lie at the customer premises, the local loop, the DSLAM or at the soft switch or video head-end respectively.



AXS-200/620 test locations in the access network.

Specifications

IPTV-OVER-DSL/ETHERNET TESTING SUITE

Physical-layer support	ADSL1/2/2+ Ethernet 10/100
Recognized video compression/standards	MPEG2, MPEG4 part 2 and 10 (H.264/AVC), WM9
Video streaming control	Video streaming (channels) detection IGMP joins/leaves
Operation	Through mode or stand-alone with STB IGMP emulation
Analysis and statistics	ADSL, ATM, IP layer analysis Bandwidth usage per channel IGMP packets Set-top box (STB) traffic Key IP video QoS parameters: packet loss, packet jitter, zap time PCR jitter, PID statistics Media delivery index (MDI) (option) QoS pass/fail indicators
Graphic results	Bandwidth usage and per-layer error-detection graph IP packet and PCR jitter histograms

VOIP-OVER-DSL/ETHERNET ANALYSIS SUITE (VoIP TESTING)

Signaling protocols	Session initiation protocol (SIP) v2 (RFC) Media gateway control protocol (MGCP) Skinny client control protocol (SCCP)
Operation	Through mode over DSL and 10/100 Ethernet
Call monitoring/analysis	ADSL, ATM, IP layer call statistics Gateway/ATA initialization Call flow Codec indicator (G.711, G.729, G.726, G.723) Key VoIP QoS parameters: packet loss, packet jitter QoS pass/fail indicators
Graphic results	Delay distribution, jitter histogram

DATA ANALYSIS MODE

Layer 1/2 support	ADSL2+ and Ethernet (stand-alone and Through mode)
Login format	Username and password using PAP and/or CHAP
IP options	Routing functionality, NAT, DNS support
Ping	Pings another device on the network Device: gateway, destination IP address or URL Configurable number of pings (1 to 99) Packet size: 32 to 1500 bytes (32 is default) Results: indicate packet size, packets sent/received, minimum/average/maximum round-trip times in milliseconds (ms)
Traceroute	Determines the path used to reach device on the network Timeout in seconds Time to live (TTL) (default is 100 ms, maximum is 5 s) Packet size: 32 bytes Number of hops: 1 to 30 (default is 30) Results indicate IP address of hop and round-trip time in milliseconds (ms)
HTTP speed test	Downloads a Web page and indicates speed of download Address: IP or URL Protocol: HTTP
FTP speed test	FTP upload, FTP download or both Displays speed to upload and/or download a file

ADSL2+ ATU-R MODULE

Chipset	Conexant
Standards	Annex A option (over POTS): ITU-T G.992.5 (ADSL2+), ITU-T G.992.3 (ADSL2 and RE-ADSL), ITU-T G.992.1 (G.DMT) and ANSI T1.413 Issue 2 Annex B option (over ISDN): ITU-T G.992.5 (ADSL2+), ITU-T G.992.3 (ADSL2 and RE-ADSL), ITU-T G.992.1 (G.DMT)
Rates supported	Downstream: up to 24 Mbit/s Upstream: up to 1.3 Mbit/s
Measurements	Maximum bit rates Actual bit rates Mode: Fast, Interleaved Latency capacity Signal-to-noise ratio (SNR) margin Output power Attenuation Carrier load (bits/bin) ATM F4 and F5 OAM loopback
Link errors	FEC, CRC, HEC
Bits/bin	Graphical display
Encapsulation methods	PPPoE (RFC 2516), RFC 2684 supporting bridged Ethernet (IPoE), IPoA (RFC 1577), PPPoA/LLC and PPPoA/VC-MUX (RFC 2364)

ORDERING INFORMATION

AXS-620-XX-XX-XX

Model
AXS-620 = ADSL2+ triple-play module

DSL module
ADSL2+A = ADSL2+ triple-play module (Annex A)
ADSL2+B = ADSL2+ triple-play module (Annex B)

DSL Software Option
MDI = IPTV analysis w/MDI
ADSL2+AB = ADSL2+ Annex A + B

Accessories (AXS-610)
ACC-RJTC [a] = Test cable: RJ-45 to telco clip
ACC-RJRJ = RJ-45 Ethernet cable

Note
a. Always included.

Example: AXS-620-ADSL2+A-MDI-ACC-RJRJ

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